



Clean Air Zone Idaho

Get into the Zone!

Message from DEQ



Last winter, Governor Kempthorne and the Idaho Department of Environmental Quality (DEQ) launched *Clean Air Zone Idaho*, a voluntary program to reduce children's exposure to diesel exhaust.

I am proud to report 163 schools with 673 buses have signed up so far and over 57,000 Idaho children now attend *Clean Air Zone Idaho* schools. I applaud these schools for joining this program and demonstrating their commitment to children's health and clean air.

Starting in 2006, DEQ will offer financial assistance to schools and districts wishing to retrofit diesel buses with cleaner technologies. Our goal is to retrofit every eligible bus in Idaho.

We look forward to working with Idaho schools on this exciting partnership.

If your school is not part of *Clean Air Zone Idaho*, it's not too late to join! DEQ offers tools and anti-idling road signs to schools free of charge. Call (208) 373-0146 to join!

Toni Hardesty
Director
Idaho Department of
Environmental Quality

163 Schools Join *Clean Air Zone Idaho*

Since its launch in December 2004, 163 schools have joined *Clean Air Zone Idaho*. Has your school joined?

Schools that participate in *Clean Air Zone Idaho* receive at no cost:

- ✓ Street signs that ask drivers to turn off their engines.
- ✓ A toolkit with information on how to reduce exposure to vehicle exhaust.
- ✓ Potential funding to retrofit buses with technologies that reduce air pollution.



According to the U.S. Environmental Protection Agency, if a school bus fleet has 50 buses and each bus reduced idling time by 30 minutes a day, at \$2 per gallon for diesel fuel, the fleet would save \$4,500 per school year.

Diesel Exhaust and Children's Health

Studies show that school buses are the safest way for children to get to and from school. However, levels of air pollution inside buses from diesel exhaust may be up to four times higher than outside. Children are particularly at risk because their lungs are still developing and they breathe at a faster rate than adults.

Did you know?

- ✓ The Idaho Department of Health and Welfare estimates that 130,000 Idahoans and at least 10% of Idaho children suffer from asthma.
- ✓ The Centers for Disease Control and Prevention cite asthma as the number one cause of absenteeism among school children nationwide.

The Idaho State Asthma Plan sets goals to improve environmental factors that contribute to the prevalence of asthma, including reducing school bus emissions. By joining *Clean Air Zone Idaho*, your school can help reduce air pollution and protect student health.

Join now! For more information visit the *Clean Air Zone Idaho* Web site at www.deq.idaho.gov/air/educ_tools/clean_air_zone_idaho/index.cfm.

In this newsletter...

- ✓ Hang up those signs! Timberline High School students demonstrate that "Turn Off Your Engine" signs work.
- ✓ DEQ announces the first round of diesel retrofit grants to Idaho schools. See how your school can get involved.
- ✓ Learn what your school can do to help prevent air pollution.



No Idle Zones Work; Timberline High School Students Show Us How



"I know that this program was a successful one because I saw the results with my own eyes."

-John Riddle, Timberline Student

Last spring, students from Neil Greeley's chemistry class at Timberline High School in Boise asked the question...**Could something as simple as a sign really make a difference?** Working with DEQ, students set out to see if *Clean Air Zone Idaho* "Turn Off Your Engine" signs would reduce vehicle idling. Monitoring drop-off activities at two elementary schools, students timed how long drivers idled before and after *Clean Air Zone Idaho* signs were posted. The result? It works! At one school, students noted the average idling time decreased from 3.5 to 2.6 minutes, a 26% reduction. At the other school, students noted the average idle time went from 2.6 minutes to just 8 seconds, an 84% reduction! The reduced idling times mean lower levels of exhaust emissions around our schools.

So remember to post those signs. They really work! Need a sign? Contact DEQ at (208) 373-0146.

Tips for Posting *Clean Air Zone Idaho* "Turn off Your Engine" Signs

- ✓ Post signs in both bus and parent pick-up areas.
- ✓ Ensure signs are visible and aren't blocked by leafy trees or other vehicles.
- ✓ Educate parents, staff, and students as to where the signs are and what they mean.
- ✓ To minimize costs for placing the signs, mount underneath other signs or use existing structures such as fences and light posts.

Biodiesel Conference a Success

In September, the University of Idaho and Idaho Energy Division partnered to introduce schools to biodiesel. Biodiesel is fuel made from waste oil or soy and other crops.

According to John Crockett of the Idaho Energy Division, "biodiesel can be used successfully in school buses and may even save a school money in the long run."

Over 100 participants heard from a variety of speakers about the technical and practical considerations of switching to biodiesel.

Want to make the switch?

The Energy Division provides technical assistance to schools and others wishing to try biofuels.

The division also runs a B20 buydown program to provide funding to schools and other organizations to pay down incremental costs between biodiesel and diesel.

The B20 buydown program is a safety net, allowing a fleet to try the fuel at no risk or cost for up to one year. "It's a win-win situation," says Crockett.

Traditionally, the 20% blend of biodiesel (called B20) has cost about 12¢ more per gallon than regular diesel. But in the last year, the price gap has narrowed, with B20 sometimes even costing less than traditional diesel.

In addition, some schools nationwide have reported savings when switching to biodiesel. B20 is a cleaner fuel. Many fleets report better engine performance, reduced maintenance costs, and even better gas mileage when using B20.

To learn more, contact John Crockett at the Idaho Energy Division at (208) 287-4984.

What Your School Can Do to Prevent Air Pollution

Schools can address children's exposure to air pollution through some simple and cost-effective strategies. Actions include:

- ✓ Adopt a school no-idling policy.
- ✓ Post signs around major drop-off zones that encourage drivers to turn off their engines.
- ✓ Inform parents and other vehicle users, such as delivery trucks, about the no-idling policy around schools.
- ✓ Include information on the no idling policy in school newsletters.
- ✓ Park buses away from children's gathering places and building air intake vents.
- ✓ Designate a warm, indoor waiting area for bus drivers.
- ✓ Establish a program to recognize and reward drivers who successfully reduce idling.



Money for Your School - Diesel Retrofit Project

Money for Your School

DEQ announces funding to help districts reduce diesel emissions

Diesel vehicles are very durable, which means some school buses remain in service for over 20 years. Many school buses on the road today were manufactured under older, less stringent emission standards. In fact, pre-1990 buses may pollute as much as six times more than new buses. To reduce emission impacts, diesel buses can be fitted with devices designed to reduce emissions.

Starting in 2006, DEQ will work with school districts statewide to evaluate bus fleets for retrofit options. Idaho's goal is to retrofit all applicable buses. To date, DEQ has secured \$750,000 in federal funds for this program.

Retrofit options for Idaho

Many retrofit options are available, although some require special fuels not yet sold in Idaho. DEQ will work with districts to evaluate their fleets and determine the best available technology or technologies for each bus.

For Idaho, the best retrofit option is likely a **diesel oxidation catalyst** (DOC). A DOC is a control device formed by a porous, ceramic, honeycomb-like structure coated with a catalyst to accelerate the chemical reaction that reduces pollution. DOCs reduce emissions of particulates between 25 and 50%. Hydrocarbons and carbon monoxide are reduced by 90% and hazardous air pollutants by 70%.

Most DOCs come with a 100,000 to 150,000-mile warranty and can last up to 15 years, rarely requiring maintenance. DOCs will be the primary retrofit technology due to price and compatibility with a variety of buses and fuel blends. A DOC is easily installed in one to three hours in place of the muffler. Each device costs \$2,000.

DOC devices replace traditional mufflers



In many diesel engines, crankcase emissions known as blow-by are released directly from the engine. **Closed crankcase ventilation (CCV)** devices provide a cleaner engine environment by capturing and returning oil in blow-by gases to the crankcase. CCV devices direct nitrogen oxides, hydrocarbons, and air toxics back to the intake system for re-combustion instead of polluting the environment. Particulates are collected in a filter and removed from crankcase vapors. CCV devices cost approximately \$1,200.

Engine pre-heaters compliment other technologies and are an option for some buses. Aftermarket auxiliary heaters can be used to warm up engines and passenger compartments in colder months. This equipment runs off the school bus fuel tank or an electric outlet and includes a timer that can be programmed to automatically start the heating function.

Depending on the type, pre-heaters cost between \$1,200 and \$2,500. Fuel use is reduced by 87% or more during warm up, resulting in fewer air emissions.

How to get involved

To participate, school districts must submit information on their current bus fleet to DEQ by **February 27, 2006**, along with a letter of commitment. Information will be used to determine which buses are eligible for retrofits and identify the best retrofit technology for each bus.

Funding decisions will be based on several criteria, including the age and condition of the fleet, ability to match each bus to the appropriate retrofit technology, school district commitment, and demonstrated participation in *Clean Air Zone Idaho*.

To receive funding, school districts will be required to provide a 5% match for the funding they receive (about \$100 per DOC). The match may come in the form of in-kind service, such as employee time spent attending training in preparation for the retrofits. The technologies will be provided and installed by experienced contractors selected under Idaho's bidding process.

For more information on how to apply for funding, contact Jorge Garcia at (208) 373-0480.



Participating *Clean Air Zone Idaho* Schools and School Districts

Schools:

Adams Elementary, Boise
Discovery Elementary, Meridian
Falcon Ridge Public Charter, Kuna
Franciscan Cre-Act, Pocatello
Frontier Elementary, Meridian
Holy Spirit Catholic, Pocatello
KASP/Wesleyan Preschool, Boise
Liberty Elementary, Boise
Magic Valley High, Twin Falls
McMillan Elementary, Boise
Monroe Elementary, Boise
Northview Montessori, Boise
Oregon Trail Elementary, Twin Falls

Ririe Elem, Middle, and High, Ririe
Riverside Elementary, Boise
Rockland Public, Rockland
Roosevelt Elementary, Boise
Spalding Elementary, Boise
Timberline High School, Boise
Trail Wind Elementary, Boise
White Pine Elementary, Boise

Districts:

Blaine County #61 (7 schools)
Bonneville Joint #93 (13 schools)
Culdesac Joint #342 (1 school)
Firth #59 (3 schools)
Genesee #282 (1 school)

Grace Joint #148 (4 schools)
Idaho Falls #91 (19 schools)
Kamiah Joint #304 (3 schools)
Lewiston Independent #1 (11 schools)
Kellogg #391 (5 schools)
Madison #321 (11 schools)
Moscow #281 (7 schools)
Mountain Home #193 (9 schools)
Nampa #131 (21 schools)
Nez Perce Joint #302 (2 schools)
Orofino Joint #171 (7 schools)
Prairie, Cottonwood #242 (3 schools)
Salmon #291 (5 schools)
Swan Valley #92 (1 school)

Is your school part of *Clean Air Zone Idaho* but not listed above? Would your school like to join? Individual schools and whole districts are invited to join *Clean Air Zone Idaho*. Contact DEQ at (208) 373-0146 or patti.best@deq.idaho.gov.



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Environmental Quality
Clean Air Zone Idaho Program
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Award winning entries, *Turn Off Your Engine* Art Contest, Boise School District

